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Embracing Open Source Software for Library Automation: A Feasibility Study Based on Selected Libraries in South India

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Abstract: Emergence of open source technologies have revolutionized the way in which libraries performed their activities and services. Proprietary software requires licence which demands cost and reduces the freedom in its use and customization. The present study intend to determine the perceptions of proprietary Integrated Library System (ILS) users on adopting Open Source ILS (OSILS). Analysis of the research study identifies the major issues which forestall the wider adoption of OSILS and identifies few possible recommendations to enhance the rate of adoption of OSILS by proprietary software users in Indian libraries. The study adopted online survey method to gather primary data and the horizon of the survey was limited to libraries in South India exercising any of the library automation software under a commercial stream. Analysis of the study found that though majority of the proprietary software users in South India highly recommend and support the adoption of OSILS, lack of technical knowledge required in installing and maintaining the software foreclose the process.

Keywords: Open Source Software, OSS, Library Automation, Integrated Library System, OSILS, India

1. Introduction

The landscape of library and information centres in terms of its automation activities has been highly commuted in the last two decades. Integrated library systems (ILS) are programs that manage automation activities of libraries in an effective and efficient manner there by reduces the manual processing involved in its operations. There are good numbers of ILS which are available in both open source and commercial stream. The automation software available in the open source platform and distributed with the source code under a licence is named as Open Source Integrated Library System (OSILS). OSILS is now playing as a stepping stone and financial choice for many institutions in India. Self sufficiency and independency are the two major factors which attract users to adopt OSILS compared to its proprietary counterparts. The main reasons for the adoption of and interest in open source software by librarians are eliminating their dependence on the proprietary-service vendors, gaining more control over the ILS by making it customizable to the local requirements of the libraries (Wrosch, 2007). Adoption of OSILS further offers significant benefits to libraries to provide innovative approaches and services to their clients compared to commercial packages. Though adoption of OSILS involves invisible costs in-terms of expertise, infrastructure, maintenance and updation comparatively it is a better choice for libraries to independently execute innovative services to its clients.

2. Literature Review

In India, the process of library automation has been developed and matured over the years. Many libraries have already automated their library activities with the available ILS to perform their activities. Significant number of libraries have already adopted or migrated to OSILS. The literature reflects that the tendency for embracing OSILS have been enhancing in all kinds of libraries in India in the recent years. A few studies have been published on adopting OSILS by proprietary software users. OSILS is an economical alternative to costly proprietary packages and does not require the initial cost involved in the commercial one such as software development, license and maintenance etc. are comparatively lower than commercial software. OSILS provides technological freedom to the libraries and also help the library professionals to provide services at lost cost or free of cost (Kamble, 2012). OSILS has undergone frequent revisions and updations and provide specialised services to libraries to incorporate with the emerging technologies. The next generation ILS is steered by the rapid advancements in the area of computer science and is adapting itself to the state-of-the-art forthcoming hardware architectures and software technologies (Tyagi & Senthil, 2015). However the rate of adoption of OSILS among Indian libraries needs to be enhanced further. According to a survey conducted by Jasimudeen and et.al, the primary reasons of libraries not implementing open source solutions for their automation purposes are lack of awareness, training and absence of encouraging government policies (Jasimudeen and et.al, 2014).

OSILSs are familiar to majority of the professional but still they continue to depend on proprietary software for library automation. Kumar and Abraham (2011) found that the adoption of open source library management system is restricted in India by the lack of awareness and knowledge in open source technology among library professionals. Another relevant study was conducted by Gireesh Kumar and Jayapradeep revealed that though LIS professionals are oriented, insufficient technical support and inadequate training and opportunities are the main barriers in adoption and introduction of OSILS in Indian libraries (Gireesh Kumar and Jayapradeep, 2015). In OSILS, library staffs are required to acquire minimum technical skills to handle the issues and up keep of the software. Professionals should be able to understand the features and facilities of different ILS and choose them according to their requirement. Reddy suggests that in spite of the challenges, libraries should consider the capabilities of OSILS and evaluate their merits of the features, reliability and support (Reddy, 2004).

Indian libraries which have not automated with any of the software should consider and look forward to adopt OSILS packages. The study of Kamila concludes that it is better to use OSILS because of its many useful features such as importing of data directly from Library of Congress and other large databases which minimizes the processing work of library, main library and branch library automation facilities, MARC21, Z39.50 etc. as well as its freedom to change the source code as and when necessary which can solve the local problems of every institution (Kamila, 2008). However selection of a suitable OSILS depends on other factors such as sustainability, availability of functionalities to meet

specific requirements, consortia supports, quality documentations, community participation etc.

3. Objectives

The basic objective of the present study is to assess the attitude of proprietary ILS users towards the adoption of OSILS in South Indian libraries. Following are the main objectives of the study.

- To measure the attitude of proprietary ILS users on OSILS adoption in South Indian libraries
- To identify the major concerns which hinder wider adoption of OSILS by the proprietary software users in South Indian libraries
- To figure out few possible recommendations to enhance the rate of adoption of OSILS by proprietary software users in South Indian libraries.

4. Methodology

Online survey questionnaire method using Google doc, an online tool of Google was adopted for collecting the primary data. The structured questionnaire focusing different aspects of OSILS was prepared and the respondents were chosen from the libraries of South India using any of the automation software for their library. The covering letter with online link to the questionnaire was sent to the users of proprietary software through their personal email. As many as 144 libraries across the southern part of the country were responded to the questionnaire. The responses were received from various kinds of libraries such as academic, special, research and corporate by the respondents of different age group and educational qualifications. The received responses were analysed on the basis of respondent's geographical location, gender and library type, legacy software being used and user's perception of usefulness of OSILS. The survey was carried out over a period of 11 months (from March - January 2015) to have a higher response rate.

5. Scope and Limitations

The flexibility, cost effectiveness and availability of source code etc are the major reasons which make libraries to adopt OSILS when compared to commercial packages. However the rates of adoption in Indian libraries are comparatively low and the study investigate the reasons for not being migrated to OSILS by the proprietary ILS users. The study limited its horizon on libraries using any of the proprietary ILS located in South India. The study is intended to consider every library in the region of South India using any proprietary software irrespective of the kind of libraries such as academic/research/school libraries and collection size. Consideration was also given to the state of Telangana separately as the state is part of South India after the bifurcation of Andhra Pradesh.

6. Analysis and Findings

It is found from the study that 97% of the respondents using proprietary software were aware of the existence of OSILS and among the total respondents 80% were supporting its adoption in Indian libraries and a higher majority of the respondents (70%) indicated Koha was the best suitable software they intend to adopt followed by NewGenLib (10%). Although the percentage of interest was comparatively low, 38% were indicated that they planned to adopt OSILS for their libraries in the near future. The study also identified the distribution of proprietary ILS among the respondents and found that LibSys is the most commonly adopted software in the commercial stream used in South Indian libraries followed by Easylib. The software such as Autolib, Libsoft and SOUL are equally (10%) distributed among the respondents. In the same way software like Liberty, ModernLib, Nirmals and SLIM are also circulated at the rate of 3%. There are software being used in less number which include Bees Campus Soft, BookMagic, Campuslib, Delplus, Grandha , Grandha, Lib Manager, LIBRIS, Libsuite, ROVAN, TCSion, VTLS etc having less than three responses and the software of in-house developed in nature. The response rate of the in terms of its proprietary ILS is diagrammatically represented in

6.1. Geographical Location, Gender and Library Type

Segmenting upon the geographical location, the state of Tamil Nadu became first with highest number of respondents as 39 (27%) male respondents and 09 (6%) female respondents followed by 39 (27%) male and 04 (3%) female respondents of state of Karnataka. The response rate of Kerala marked as 18 (13%) male and 06 (4%) female respondents where there were no female respondents from the states of Telangana and Andhra Pradesh, however they had a male respond rate of 17 (12%) and 12 (8%) respectively.

Respondents were asked to indicate their library type as academic, special or research, public and corporate and were given as default options to choose. A majority of the respondents that had responded for the survey were from academic library and the rate of response from each state Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana were 8%, 21%, 13%, 26% and 6% respectively. Distribution of the number of responses received from each state and under different type was represented in tabular form (Table 1).

Table 1: State Wise Response Rate from Proprietary ILS Users

Sl No	State	Respondents		Library Type			
		Male	Female	Academic	Special/Research	Public	Corporate
01	Andhra Pradesh	12	Nil (0%)	12	Nil	Nil	Nil
		(8%)		(8%)	(0%)	(0%)	(0%)
02	Karnataka	39	04	30	11	Nil	02

		(27%)	(3%)	(21%)	(8%)	(0%)	(1%)
03	Kerala	18	06	18	06	Nil	Nil
		(13%)	(4%)	(13%)	(4%)	(0%)	(0%)
04	Tamil Nadu	39 (27%)	09	38	09	01	Nil
			(6%)	(26%)	(6%)	(1%)	(0%)
05	Telangana	17 (12%)	Nil	08	07	Nil	02
			(0%)	(6%)	(5%)	(0%)	(1%)
Total		125 (87%)	19	106	33	01	04
			(13%)	(74%)	(23%)	(1%)	(2%)

6.2. Age Group of the Respondents

Different segments of respondents were made with regard to age of the respondents such as 21-30 years, 31-40 years, 41-50 years and above 51 years. Among 144 respondents 44% professionals were in the age group of 31-40 years where as the ratio of 21-30 years and 41-50 years were 14% and 32% respectively (Table 2). The senior respondents beyond 51 years stood last at 10%. It is learned from the analysis that the respondents age group of 31-40 showed better interest in responding comparing with the other three and there by assumed that they are prone to technological advancement in the library.

Table 2: Respondents Age Group

Age Group	No of Responses	Percentage
21 - 30 Years	20	14%
31 - 40 Years	64	44%
41 - 50 Years	46	32%
More than 51 Years	14	10%

6.3. Software Selection Authority

Selection of OSILS was very limited in the beginning when only few such open source solutions were available with no guarantee in its future existence. Availability of proprietary library software sometimes influences selection authority as they think proprietary software are more reliable. Respondents were also asked to indicate the final authority in their organization in library software selection process to find out the impact of the selection committee in choosing an OSILS. Responding to this question, 39%

respondents answered librarian is the key person in selecting the library software followed by head of the institution (34%) and library advisory committee (24%). In either of these responses the engagement of library professionals is significant, however, the pragmatic process of selection and implementation of an ILS requires the confluence of librarian, IT experts to make the application self sufficient and effective. Very few (3%) had mentioned Infrastructure Development Committee, IT or team of computer professionals, department of IT, software selection committee, purchase committee and the management itself

6.4. Issues preventing the wider adoption of OSILS

Scanning upon the available literature and consulting upon senior professionals on the issues which hinder the wider adoption of OSILS in libraries, there were thirteen options being identified as the major reasons. These options were selected and the respondents were asked to choose the options they assumed with a flexibility of rendering multiple answers. The result of the analysis shows that a higher majority at 15% identified the lack of technical knowledge required to install and maintain OSILS was the biggest concern as far as Indian scenario is concerned. However other major issues like lack of technical support and shortage of skilled staff to install and maintain OSILS were equally (12%) reduces the rate of adoption. The other major reasons marked by the respondents were lack of promotional activities (10%) and issues of data security (8%). The emergence of issues such as reduced vendor support, software security and organizational policies were also equally (7%) marked as concerns to be addressed to enhance the rate of adoption of OSILS. Though the lack of community support and lack of major functional features and modules in OSILS believed to be reasons which slightly (4% each) had an impact on adoption. The issues of lack of high quality documentation and availability of proprietary software also prevent the wider adoption of OSILS in Indian libraries and 5% of the respondents were marked this statement as true. Issue of reliability/longevity of the software was also mentioned as a concern by some respondents (6%) and few had opined that professionals lack awareness and understanding the benefits of OSILS

7. Recommendations to enhance the rate of adoption of OSILS

Open source software by definition does not cost money to use, if the library has the technical expertise required to use the software, they can use it for absolutely no cost to them (Singh, 2014). Library professionals are to be more aware of the advantages and qualities of OSILS and are to be dynamic in sharing their experiences and involving in its development. Extensive hand on training programs needs to be organized frequently in educating the future library professionals about the advantages of OSILS. Library professionals should have more opportunity to attend free awareness and training programs on OSILS to build up their confidence in successfully implementing the software. Application of OSILS should be part of the academic curriculum and government organizations should draft policies to make mandatory use of OSILS. Library fraternity should involve in conducting training programs and workshop and simplified

documentation and training are required to be provided for customization and data migration. High quality documentation on OSILS should be available on the public domain and the software installation and backup process should be made easy. Indian libraries should consider consortia model for wider adoption of OSILS. Indian Libraries should have customized versions of single OSILS for any type of library. Indian Libraries should have an OSILS to support various Indian scripts. Utilization of cloud computing and adoption of OSILS reduces the risk of budgetary shortfalls in libraries up to some extent. Outmost care should be taken by the professionals while choosing a particular OSILS as many of the projects available in OSILS streams found to be inactive within a short period of their initial release. An OSILS with a growing and active user community, with institutional support can be preferred.

8. Conclusion

OSILS are to be considered as a possible alternative to costly proprietary software. Library professionals in India approach OSILS to bring down their expenditure for managing and circulating their resources. Open source for library automation extend an easy option for introducing technological innovations in libraries to provide newer information services. Proprietary software users are also interested to embrace OSILS for their libraries and support the adoption. However, lack of technical knowledge and support along with skilled staff to install and maintain OSILS prevent the wider adoption of OSILS in Indian libraries. Extensive and effective training to LIS professional for the implementation, installation, customization and maintenance of the software is very crucial for its successful implementation and management. The very survival of any OSILS lies in its active community. Koha software found to be the ideal one as it has a strong support of professionals through online forums and community to know the development and updates. Adequate planning as well as support from technical staff also very much essential to complete the automation within a stipulated time.

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